

REMARKS

Applicants confirm the oral election with traverse of Group I, claims 1-18.

Restriction was required because the inventions specified as Groups I and II were determined not to relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same more corresponding special technical features in that the claims of the first group were allegedly anticipated or obvious over the cited Fukushima reference. As it will become more apparent from the discussion below, it is respectfully submitted that the claims amended herein are neither anticipated nor obvious over this reference. As a result, it is respectfully submitted that all claims relate to the single general inventive concept under PCT Rule 13.1 and the unity requirement should be withdrawn.

By the foregoing amendments, claims 1, 4 and 9 have been combined. Beyond this change, the other corrections made to the claims have not served to change their scope.

The claim objection to claims 1, 4, 9, 16 and 18 is respectfully traversed. It is respectfully submitted that the term "obtainable" is correct, particularly in view of the grammatical change made in these claims.

Claim 1 has been amended to replace the reference to the organic monomers with polymerizable organic species (originally at claim 1, line 11) so as to be consistent with the remainder of that claim. The subgroup in claim 3 and the example in claim 14 have been separated into new dependent claims.

It had been noted during the international phase of this application that claims 5 and 6 were incorrect and they were amended to correct the expression of the ratio to indicate that it was the ratio of the first hydrolysable monomer precursors : total of first and second hydrolysable monomer precursors. Applicant regrets any inconvenience the failure to make the same correction in this application before the case was taken up by the Examiner for consideration.

While this ratio was originally expressed as the ratio of first hydrolysable monomer precursors : second hydrolysable monomer precursors, it would have been readily apparent to the person skilled in this art reading the Examples of the application that this expression of the ratio was incorrect. It would also have been readily apparent to the skilled man from those Examples that the ratio should be properly expressed as first hydrolysable monomer precursors : total of first and second hydrolysable monomer precursors.

In this connection, the attention of the Examiner is respectfully invited to page 24, lines 34 and 35, which quote the molar ratios of silanes in Examples 1 and 6. Calculation of the molar ratios as silanes in Component A : silanes in Component B does not give the values quoted at page 24 line 35. Instead, calculations of the ratios on this basis gives a ratio of 1.65 for Example 1 and a ratio of 4.96 for Example 6. Calculation of the molar ratios on the basis of silanes in Component A : total silanes in Components A and B give the values of 0.624 for Example 1 and 0.833 for Example 6. It is these latter values which are quoted at page 24 line 35.

More particularly, the molecular weight of tetraethoxysilane (TEOS) is approximately 208.33 and the molecular weight of 3-(trimethoxysilyl) propylmethacrylate (MPTMA) is approximately 248.35. Thus, for Example 1 the ratio:

$$\frac{\text{moles TEOS}}{\text{moles TEOS} + \text{moles MPTMA}} = \frac{41.7}{(41.7 \div 208.33) + (30 \div 248.35)} \div \frac{208.33}{248.35} = 0.624$$

Thus, the skilled man reading the specification would have found it obvious that there was an error in the expression of the ratio of silanes, or hydrolysable inorganic monomer precursors. He would also have recognized that the correction to that error was obvious.

In light of all of the foregoing, it is respectfully submitted that the instant claims comply with the requirements of 35 U.S.C. §112 and withdrawal of any rejection based thereon should be now in order.

Rejections based on 35 U.S.C. §102 and either Groth or Fukushima were advanced in the outstanding Office Action. In view of the amendment of the claims so that they all now include, inter alia, the feature previously recited in claim 9, these rejections are moot.

Rejections based on 35 U.S.C. §103 over either Groth or Fukushima or over Fukushima in view of Vorse have been advanced in the current Office Action. It is respectfully submitted that these rejections are not tenable and should be withdrawn.

With respect to both Groth and Fukushima, the Office Action alleges that it would be obvious to one of ordinary skill in the art at the time the invention was made that the amount of one silane with respect to the other would have been determined through routine experimentation in order to optimize the effects that these inorganic monomers would have in a composition. It is then alleged that increasing the first silane would increase hardness and weather resistance whereas increasing the second silanes would increase polymerization between the inorganic sol and organic

component thereby increasing adhesion of the coating to the substrate. The basis for these allegations is not set forth nor is the same apparent. Moreover, it is respectfully submitted that the assertion is internally inconsistent since it appears to be predicated on increasing both the first and second silanes, which means that the ratio between the silanes would not be altered. The Office Action further states that the Applicant has not disclosed a criticality of using these specific ratios but the issue under § 103 is whether or not the ratios are obvious, not whether they are critical. Criticality may be a consideration, but it does not become so until a *prima facie* basis for rejection has been established and it is respectfully submitted that none has been established here.

The Office Action further admits that neither Groth nor Fukushima teaches or suggest hydrolyzing the first and second silanes to form separate sols and then mixing the sols together. To overcome this deficiency, the Office Action asserts that it would be obvious that hydrolyzing the silanes separately and mixing them together would have worked equally well as hydrolyzing them together and would have the same effects. However, this is a statement of a conclusion and not a statement of fact. No factual basis for the statement is advanced and none is apparent (other than gross speculation, which, of course, is not permissible). Obviousness cannot be predicated on the unknown. *In re Newell*, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989). Silence is not a substitute for an adequate disclosure of facts from which a conclusion of obviousness may justifiably follow. *In re Burt*, 148 USPQ 548 (CCPA 1966).

Beyond the foregoing, the CCPA had occasion to observe in the case of *In re Freed*, 165 USPQ 570, 572 (1970) that “. . . it seems more logical and reasonable to infer that one teaching a chemical reaction process would set out the least number of reactions thought necessary to accomplish the desired objective. Thus, one skilled in the art who reads the teaching would have to presume that if the reactants were not

combined in the manner shown, some adverse side reaction or no reaction at all would occur." This presumption is directly contrary to the speculation advanced to the Office Action.


The Office Action observes that Applicant has not disclosed that hydrolyzing the monomers separately and then mixing them would have advantages over hydrolyzing them together. In light of the deficiencies in the references, it is respectfully submitted that Applicant has no obligation to make such a disclosure. Had that been necessary, a showing to that effect could have been made. For example, a coating prepared using the separate hydrolyzing procedure resist damage when a fingernail is drawn aggressively across it whereas a coating made with hydrolyzing them together is readily damaged when a fingernail is drawn across it.

The deficiencies in Fukushima with respect to claim 7 and 8 are not overcome by additional reliance on the Vorse reference. The latter reference has been cited only to show the use of tetraethoxysilane but not to otherwise overcome the deficiencies in the primary reference.

In light of all of the foregoing considerations, it is respectfully submitted that this application is now in condition to be allowed and the early issuance of a Notice of Allowance is respectfully solicited.

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Respectfully submitted,

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